George G. Vega Yon, Ph.D.

Data Science, Statistical Computing, & Complex Systems Modeling

I'm an accomplished **data scientist** with over **10 years of experience** with multiple software packages and scientific publications. My software has been downloaded over **half a million times**, and my papers have over **200 citations**. My work has spanned data science, economics, network science, statistics, and phylogenetics. I seek new challenges, enjoy collaborating with others, and excel at mentoring.

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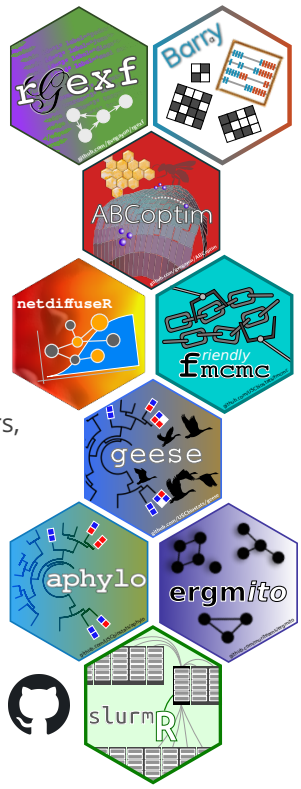
I am a successful scientific software developer with over **half a million downloads**



Education

Ph.D. in Biostatistics (Stat. Comp.) University of Southern California (2020).

M.Sc. in Social Sciences (Economics) California Institute of Technology (2016)

MA in Economics and Public Policy, Universidad Adolfo Ibáñez (2011)

BS. in Business Administration, Universidad Adolfo Ibáñez (2011)

Professional Experience

University of Utah, November 2021–Present Department of Internal Medicine
Research Assistant Professor in Epidemiology
Adjunct Assistant Professor in Population Health Sciences.

- **Research** areas: Mechanistic ML, Network Science, Computational Epidemiology, Phylogenetics, Statistical Computing.
- **Managed** a group of research assistants (staff and graduate students), leading to published papers, software, and conference talks.
- **Taught** and designed the first course on HPC using R and C++ (graduate level).
- **Founder** of the "Network Science and Social Network Analysis at the U" (NetSNAU) Group.
- **Contributed** to research grants (CDC and VA,) helping to secure over **1 MM USD in funding**.
- Core faculty member of the **"Utah Center for Data Science"**.

University of Southern California, 2018–2021 Department of Preventive Medicine
Research Programmer II.

- Provide technical support on **software development** (R packages), HPC, R, and C++, including training sessions for staff and students.
- **Write** scientific papers on network science, statistics, and phylogenetics and present them at conferences.
- **Designed** and taught the course "Intro to Health Data Science" (graduate level).
- Contributed to **research grants** (NIH and DoD,) helping to secure over **10 MM USD in funding**.

University of Southern California, 2015–2018 Department of Preventive Medicine
Programmer Analyst II.

- **Organized** local conferences on Network Science.
- **Founder** of the "R Bookcamp for Statistical Computing."
- **Wrote** scientific papers and software on network science and presented them at conferences.
- Designed and **led workshops** on R and Social Network Analysis.

Chilean Pension Supervisor, August 2011– August 2014 Research Division
Research Analyst

- Wrote papers and automatized **statistical reports** about the Chilean unemployment insurance system.
- **Managed administrative data** (*e.g.*, social security) and created representative samples for researchers.
- Designed and implemented a **pipeline for simulation and forcasting** of the unemployment insurance government funds. Reports were distributed to the Chilean Congress.

Technologies R, C++, LaTeX, SQL, Python, XML, regex, Stata, AWS, Gephi, Pajek, Mathematica, Git, Docker, Visual Studio Code, tensorflow, continuous integration, Slurm, Unix, Jira.

Software (selected)

[1] **George G. Vega Yon**. *aphylo: Statistical Inference of Annotated Phylogenetic Trees* (2022). R package version 0.2-1 URL: https://cran.r-project.org/package=aphylo. downloads 6058

[2] **George G. Vega Yon**. *rgexf: Build, Import and Export GEXF Graph Files* (2020). R package version 0.16.0. URL: https://CRAN.R-project.org/package=rgexf. downloads 601K

[3] **George G. Vega Yon**, Thomas Valente. *netdiffuseR: Analysis of Diffusion and Contagion Processes on Networks* (2020). R package version 1.22.0. URL: https://github.com/USCCANA/netdiffuseR. downloads 38K

[4] **George G. Vega Yon**, Kayla de la Haye. *ergmito: Exponential Random Graph Models for Small Networks* (2020). R package version 0.3-0. URL: https://cran.r-project.org/package=ergmito. downloads 19K

[5] **George G. Vega Yon**. *slurmR: A Lightweight Wrapper for 'Slurm'* (2020). R package version 0.4-1. URL: https://CRAN.R-project.org/package=slurmR. downloads 25K

[6] **George G. Vega Yon**. *fmcmc: A friendly MCMC framework* (2020). R package version 0.3-0. URL: https://CRAN.R-project.org/package=fmcmc. downloads 21K

Academic Publications (selected)

[1] **George G. Vega Yon**. "Power and Multicollinearity in Small Networks: A Discussion of "Tale of Two Datasets: Representativeness and Generalisability of Inference for Samples of Networks" by Krivitsky, Coletti & Hens". In: *Journal of The American Statistical Association* (2023). toappear.

[2] **George G. Vega Yon**, Mary Jo Pugh, and Thomas W. Valente. *Discrete Exponential-Family Models for Multivariate Binary Outcomes*. Nov. 2022. arXiv: 2211.00627 [cs, stat]. (Visited on 11/02/2022).

[3] **George G. Vega Yon**, Andrew Slaughter, and Kayla de la Haye. "Exponential random graph models for little networks". In: *Social Networks* 64 (2021), pp. 225–238. URL: https://doi.org/10.1016/j.socnet.2020.07.005.

[4] **George G.**. **Vega Yon**, Duncan C. Thomas, John Morrison, Huaiyu Mi, et al. "Bayesian parameter estimation for automatic annotation of gene functions using observational data and phylogenetic trees". In: *PLOS Computational Biology* 17.2 (Feb. 2021), pp. 1–35. URL: https://doi.org/10.1371/journal.pcbi.1007948.

[5] **George G. Vega Yon** and Paul Marjoram. "fmcmc: A friendly MCMC framework". In: *Journal of Open Source Software* 4.39 (July 2019), p. 1427. URL: http://joss.theoj.org/papers/10.21105/joss.01427.

[6] **George G. Vega Yon** and Brian Quistorff. "parallel: A command for parallel computing". In: *The Stata Journal: Promoting communications on statistics and Stata* 19.3 (Sept. 2019), pp. 667–684. URL: http://journals.sagepub.com/doi/10.1177/1536867X19874242.

Honors and Professional Achievements

Awards Best paper, 72 ICA conference, 2022; Travel Grant, Society of Young Network Scientist, 2019; Fellowship, California Institute of Technology, 2014; Scholarship, Adolfo Ibáñes University, 2006.

Manuscript reviewer JASA, BMC Infectious Diseases, The Official Journal of The Society for Computational Economics, The R Journal, Social Networks, Journal of Mathematical Sociology, JOSS, Bioinformatics, Computer Methods and Programs in Biomedicine Update, SUNBELT Conference (2016), IC2S2 (2019–2021).

Misc Founder of the R Users Group in Chile (2013), co-organizer of the East LA R User Group (LAERUG).